Questions 1 - 4, 3 marks each

1. $\frac{1}{2}$ of $\frac{1}{3}$ equals

(A) $\frac{1}{2}$ (B) $\frac{1}{5}$ (C) $\frac{3}{2}$ (D) $\frac{1}{6}$ (E) $\frac{2}{5}$

2. In the diagram, x equals

$45°$
$x°$ $125°$
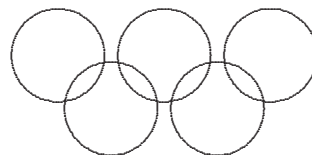$105°$
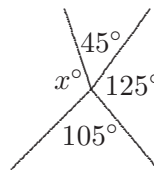
(A) 75   (B) 80   (C) 85   (D) 90   (E) 95

3. A bicycle is advertised for sale at \$249 cash or 4 monthly repayments of \$65. By paying cash, the amount, in dollars, you would save is

(A) 11   (B) 21   (C) 31   (D) 111   (E) 184

4. Each circle has an area of $1\,\text{cm}^2$. The area of the overlap between any pair of intersecting circles is $\frac{1}{8}\,\text{cm}^2$. The total area in square centimetres of the region enclosed by the five circles is

(A) 4   (B) $4\frac{1}{2}$ (C) $4\frac{3}{8}$ (D) $4\frac{7}{8}$ (E) $4\frac{3}{4}$

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Questions 5 - 8, 4 marks each

5. If a rectangle has a perimeter of 24 cm and one side is twice as long as another, its area, in square centimetres, is

(A) 24   (B) 16   (C) 20   (D) 12   (E) 32

6. A one litre carton of milk has a square base of size 7 cm by 7 cm and vertical sides. The depth of milk, in centimetres, is closest to

(A) 18   (B) 20   (C) 22   (D) 24   (E) 26

7. Ten students sit for an exam which has a maximum score of 100. The average of the ten scores achieved by the students in the exam was 92. What is the minimum mark a student could have scored?

(A) 20   (B) 90   (C) 92   (D) 40   (E) 0

8. The traditional patchwork motif (illustrated) is composed of squares and right-angled isosceles triangles.
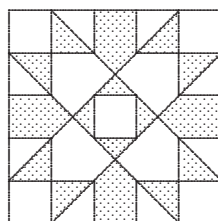
The shaded part, expressed as a decimal fraction of the whole is

(A) 0.36   (B) 0.4   (C) 0.45   (D) 0.48   (E) 0.5

Questions 9 - 10, 5 marks each

9. An orchardist in Mildura packed oranges into small bags of 8 and large bags of 20. 560 oranges were packed into 46 bags altogether. The number of large bags used was between

(A) 10 and 14   (B) 14 and 18   (C) 18 and 24   (D) 24 and 30   (E) 30 and 34

10. The rhombicosidodecahedron is a solid with 62 faces, consisting of 20 equilateral triangles, 30 squares and 12 regular pentagons. How many edges does it have?

(A) 60   (B) 120   (C) 240   (D) 230   (E) 115